

SECTION II: REMARKS

A. Summary of Amendments

Claims 5, 22, and 33 have been amended herewith. Substantive amendments to claims 5, 22, and 33 are supported by the originally-filed specification, for example, at page 7, line 11 through page 8, line 14, which describes that “[t]he recognition means 106 can detect the object of interest 104 according to prior knowledge of the object of interest 104 such as by its typical size, shape, and color” and states that “[f]or all stereo images taken at the same time, features are extracted and matched across different views” for each image. No new matter within the meaning of 35 U.S.C. 132(a) has been introduced by the foregoing amendments.

B. Response to Claim Rejections Under 35 U.S.C. 102

In the March 3, 2010 Office Action, claims 22 and 32 were rejected under 35 U.S.C. 102(b), as allegedly being anticipated by U.S. Patent No. 4,751,570 to Robinson (“Robinson”). Such rejections are traversed.

The examiner characterized Robinson as disclosing use of a light spot technique that projects a light spot (laser) on to the object that “is considered to create a ‘feature’ that is present in the image data from each of the separate views ... such that each of these ‘features’ is extracted from the different views.”¹ Applicant agrees that Robinson discloses use of a single laser spot to determine distance to an object, however, a single spot does not equate to multiple features from each image as is required by amended claim 22.

Independent claim 22 has been amended herewith to require (*inter alia*) that “analysis of the stereo image data includes extracting multiple features from each image and matching the multiple features across different views.” Extraction of multiple

¹ March 3, 2010 Office Action, page 5.

features from each image and matching of same across different views distinguishes amended claim 22 over the disclosure of Robinson, which discloses use of a single laser spot for distance calculation, and does not teach or suggest extraction of multiple features from each image and matching of the multiple features across different views. Robinson therefore fails to disclose all elements of claim 22. Claim 32 depends from claim 22 and inherently incorporates the features of claim 22. Based on the foregoing distinctions between claims 22 and 32 over Robinson, withdrawal of the rejections of claims 22 and 32 under 35 U.S.C. 102(b) is warranted, and is respectfully requested.

C. Response to Claim Rejections Under 35 U.S.C. 103

In the March 3, 2010 Office Action, claims 3-6, 12, 23-24, 30, 33, 34, and 36-39 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable for obviousness over U.S. Patent No. 5,671,450 to Suzuki ("Suzuki") in view of U.S. Patent No. 5,532,777 to Zanen ("Zanen") and Robinson. Such rejections are traversed in application to the claims as amended herewith.

Suzuki discloses a stereo image forming adapter mounted forward of a zoom lens of a camera. Two sets of mirrors are provided as deflecting members and reflecting members. Reflecting members are arranged to reflect light flux from deflecting members toward the zoom lens, with the spacing interval between deflecting members being varied together with expansion and contraction of the focal length resulting from zooming of the zoom lens. Figures 1 and 3 of Suzuki are reproduced below.

FIG. 1

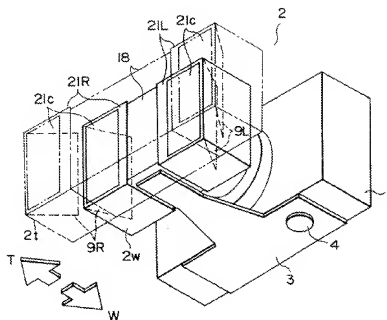
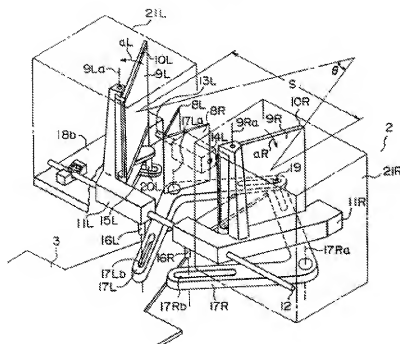


FIG. 3



In connection with Figure 3, Suzuki discloses that mirror receivers are operatively linked to cam slots to rotate mirror receivers 10L and 10R in the direction of movement, so that as the stereo base (lateral distance) increases the convergence angle of the mirrors decreases. See Suzuki, col. 5, line 60 – col. 6, line 11, as reproduced below.

“The mirror receivers 10L and 10R have respective pin portions (20L; 20R not shown) which are provided at the lower ends thereof engaged with respective cam slots 15 formed in the bottom plate 18 to thereby determine the angle of pivotal movement. (Although the mirror receiver 10R side is not shown, it is the same mechanism.)

The cam slots (15L, 15R) set the angle thereof relative to the carriage shaft 12 so as to appropriately adjust the convergence angle when the stereo base is changed. In the present embodiment, the angle is approximately 30° with respect to the direction of the carriage shaft 12, i.e., a direction orthogonal to the optical axis.

Thus, when the mirror carriages 11L and 11R move in a direction to widen (a direction in which the stereo base becomes longer), the mirror receivers 10L and 10R move in the same direction and the mirrors 9L and 9R rotate in the directions of movement (the directions of arrows aL and aR in FIG. 3). Thus, when the stereo base S becomes greater, the convergence angle θ decreases. “

Suzuki describes the benefit of linked association between the stereo base adjustment and mirror convergence adjustment at col. 7, lines 5-12, as reproduced below.

“[T]he adjustment of the stereo base and the convergence angle is effected by a simple interlocking mechanism, whereby it is not necessary to specially provide communication means between the stereo adapter and the camera, a motor for driving each mirror, etc. Therefore, downsizing and light weight construction can be achieved, and any cost of contacts and the cost of the countermeasure for preventing noise are curtailed.”

Suzuki therefore specifically **teaches away** from providing separate means (e.g., motors) for driving each mirror, and instead teaches that mirror adjustment should be mechanically linked to a mechanism for adjusting stereo base (lateral distance).

In the March 3, 2010 Office Action at page 7 thereof, the examiner conceded that Suzuki fails to “disclose the use of a recognition means for analyzing stereo image data from the camera to locate an object of interest in a field of view ... wherein said analysis ... includes extracting multiple features and matching the multiple features across different views.” (emphasis added)

The examiner pointed to Zanen as disclosing angle adjustment means for adjusting the angle of mirrors relative to a centrally located plane, and opined that it would have been obvious to modify Suzuki to include the use of an angle adjustment means for adjusting the angle of the set of mirrors relative to the centrally located plane in order to allow for corrections in the field of view.² Applicant respectfully disagrees with the examiner’s hypothetical combination of Zanen and Suzuki in this regard, since Suzuki specifically teaches away from providing “communication means between the stereo adapter and the camera, [and] a motor for driving each mirror” to reduce size, weight, and cost of the adapter. The obviousness rejections premised on the hypothetical combination of Zanen and Suzuki are erroneous for at least the reason that the examiner has failed to consider portions of Suzuki that teach away from the combination.³ Given such teaching away, the examiner’s rationale supporting the hypothetical combination of references does not embody “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness,” as required by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 127 S.Ct 1727, 167 L.Ed.2d 705, 82 USPQ2d 1385, 1396 (2007).

In the March 3, 2010 Office Action, the examiner pointed to Robinson as disclosing use of a light spot technique that projects a light spot (laser) on to an object of interest in the field of view of the camera wherein the analysis includes extracting

² March 3, 2010 Office Action, page 8.

³ In considering a reference for its effect on patentability, the reference is required to be considered in its entirety, including portions that teach away from the invention under consideration. Simply stated, the prior art must be considered as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (emphasis added); MPEP § 2141.02. “It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *Application of Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965); *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve*, 796 F.2d 443, 448 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987).

multiple features across different views when the light spot is projected onto an object and “teaches that the recognition of an object of interest by analyzing stereo image data by extracting multiple features and matching the multiple features across different views is preferred in order to accurately detect the object distance.”⁴ The examiner opined that it would have been obvious to modify Suzuki as modified by Zanen to include detection of distance and/or size of a detected object based on the analysis of multiple features across different views in order to accurately detect the object distance, and automatically adjust the focus, as suggested by Robinson.

Applicant respectfully disagrees with the examiner’s hypothetical combination of Robinson with Suzuki, for at least the reason that Suzuki specifically teaches away from providing “communication means between the stereo adapter and the camera”⁵. Regarding Suzuki, it is settled law that teaching away cannot be ignored in the context of an obviousness rejection under 35 U.S.C. 103, as detailed hereinabove. Because Suzuki teaches away from communication means between the stereo adapter and the camera, the examiner’s hypothetical modification of Suzuki to include communication of distance and/or size of an object (e.g., according to Robinson) is counter to Suzuki’s disclosure. The examiner’s rationale supporting the hypothetical combination of references does not embody “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness,” as required by the Supreme Court in *KSR*, *supra*.

But even if the hypothetical combination of Robinson with Suzuki and Zanen were proper (which it is not), such combination would not embody all features of Applicants’ independent claims 5 or 33. Each of independent claims 5 and 33 requires (*inter alia*) that analysis of the at least one stereo image or stereo image data “includes extracting multiple features from each image and matching the multiple features across different views.” Extraction of multiple features from each image and matching of the same across different views is not disclosed by any of the references cited by the examiner, and therefore patentably distinguishes amended independent claims 5 and 33 over the cited art. Robinson disclosure of a single laser spot does not embody extraction

⁴ March 3, 2010 Office Action, pages 8-9.

⁵ Suzuki, col. 7, lines 5-12.

of multiple features from each image and matching of the multiple features across different views. The remaining references cited by the examiner fail to remedy the deficiency of Robinson in disclosing this feature and fail to embody the features of amended claims 5 and 33 herein. The remaining claims 3, 4, 6, 12, 23-24, 30, 34, and 36-39 depend, whether directly or indirectly, from claims 5 or 33. Since dependent claims inherently include all of the features of the claims on which they depend, such claims are patentably distinguished over the art cited by the examiner, such that withdrawal of the rejections of all claims 3-6, 12, 23-24, 30, 33, 34, and 36-39 is warranted, and is respectfully requested.

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CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the now-pending claims are in condition for allowance. Examination of all pending claims and issuance of a notice of allowance are earnestly solicited. Should any issues remain that may be amenable to telephonic resolution, the examiner is invited to telephone the undersigned attorneys to resolve such issues as expeditiously as possible.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, permission is hereby given to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

Respectfully submitted,

By: /vincent k. gustafson/
Vincent K. Gustafson
Registration No.: 46,182

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INTELLECTUAL PROPERTY/
TECHNOLOGY LAW
P.O. Box 14329
Research Triangle Park, NC 27709

For: Kevin C. Ecker
Registration No.: 43,600
Phone: (914) 333-9618

Please direct all correspondence to:
Kevin C. Ecker, Esq.
Philips Intellectual Property & Standards
P.O. Box 3001
Briarcliff Manor, NY 10510-8001